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THE NEED, PURPOSE, AND POSSIBILITIES OF INDUSTRIAL EDUCATION IN THE ELEMENTARY SCHOOL[1]

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The time at my disposal is brief and the subject of industrial education is a large one; therefore I desire to define the specific phases of it about which I am to speak. The discussion will be limited first of all, obviously, by the terms used in the title of the paper, "industrial education" and "the elementary school," and those must be examined briefly.

Industrial education still means different things to different people. As used in this discussion it will mean a complete and adequate scheme of education for the future industrial worker. This scheme includes not only the industrial work but all the related mathematics, science, and art appropriate to the grade of practical work undertaken, and the necessary English, civics, and hygiene.

Many industrial workers will receive training in continuation schools, in trade schools, in high schools, and even in higher technical institutions, but these, for the time being, are not under consideration. The title limits our discussion to the *elementary* schools.

What the elementary school is, and what it ought to be, cannot be disposed of in a single sentence. This unit in our school system has not always been called "elementary," but the names "grammar" and "common" were formerly used and are still heard occasionally. A generation ago the expression "a common school education" meant the training given to that large majority of school children who never had any intention of going to a "high" school. It was superimposed upon the "primary" school of three grades and, together with the primary school, comprised a nine-year course. There still remain school systems with nine elementary grades.

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[1] Read at the annual meeting of the Western Drawing and Manual Training Association, Cincinnati, Ohio, May 3, 1912.

These schools were, in a measure, finishing schools. They were supposed to give the fundamentals of a general education—to provide the pupils with the common tools of an English education. That these schools were efficient, for their time, is only too clearly shown by the countless number of men and women who have attained eminent success in later life with only this training as an educational foundation. No one thought of criticizing the common or grammar school because only a small percentage of its graduates went to the high school. Preparation for high school was not the primary purpose of such schools. What the purpose was may be stated in the words of John Stuart Mill found in his inaugural address at the University of St. Andrews in 1867: "Education makes a man a more intelligent shoemaker, if that be his occupation, but not by teaching him how to make shoes; it does so by the mental exercise it gives and the habits it impresses." At that time there was little doubt that somewhere the boy would be taught to be a shoemaker, a machinist, a salesman, a bookkeeper, or what not, but it was believed that he would be more intelligent, both in his business and outside of it, because of the sharpening and the habitual drill which he was to receive in the school.

It has remained practically for our own day to decree that the main function of the elementary school shall be to select those children who are qualified to continue their education in the high school and to *prepare* them to do so. Without further exposition of facts let me state my main contention in this matter and say that, if the primary purpose of the elementary school is to lay the foundation for a secondary education, and to select those who are competent to take that work with value to themselves, then the elementary school consumes too many of the precious years before the fourteenth birthday of the pupil in giving this preparation, and it imposes tests which make it impossible for many pupils to reach high school at all. Among the rejected is some of the best material in the schools.

When it becomes an established fact that the purpose of the elementary school is the laying of this foundation and the selecting of the pupils best suited for the diversified work in high schools; when there are but six elementary grades, and when the methods employed in these grades are encouraging, instead of repressive, to the concrete-minded children, then there will be no need whatsoever for industrial education in the elementary school. Until that time shall come, I maintain that the most important part of industrial education must be given in connection with the work of grades 7 and 8 of our present elementary school.

In passing it may be noted that, in 1910, the New York State Education Department recommended a six-year elementary school, and also that, for the past two years, two school systems, one on the Atlantic and the other on the Pacific coast, have been administering a six-year elementary school, with a lower and an upper high school. In this lower high school, work such as we are now advocating for the upper grades of the traditional elementary school is made possible.

It will thus be seen that the present organization of our school systems into elementary and high schools of eight and four years respectively, and the consequent domination of the higher over the lower constitutes one of the greatest "needs" for industrial education in the elementary school.

I will present now for your consideration, a few other reasons why industrial education is needed in these schools *as they now exist.* I shall endeavor to state these reasons without argument, merely desiring to bring the several questions forward for discussion as concisely as is consistent with an adequate understanding of their import. The statements follow.

Perhaps the least important reason which I have to suggest is that the wages of some children, even at the early age of fourteen years, are needed for the support of some dependent. I believe that there are relatively few such cases, but there must be some children so situated. The least that the school can do for them is to make them so efficient that their childish service may be worth more than untrained, irresponsible, child labor. Experience has demonstrated this to be possible.

The second reason is closely related to the first, but applies to a much larger percentage of our children. In common with the world in general, industry today demands specialists, or at least requires specialized training for its successful workers. This specialized training is being furnished more and more by secondary schools and the higher institutions of learning. More subjects have been added to the curricula of secondary and higher schools since the Civil War than had been offered in all school courses prior to that time, and these subjects have been introduced largely in the interests of vocational education. Since the elementary school fails to deliver 75 per cent of its children to the higher schools where these vocational subjects are taught, but allows them to go, entirely unprepared, into their life-work, there is a need for something of vocational content in the grades to help this 75 per cent in their competitive struggle with the more fortunate 25 per cent.

Again, the industrial development of the country requires in the industrial workers, the vast majority of whom receive their only school training in the elementary grades, a much higher degree of industrial intelligence, and a keener industrial interest or curiosity than can possibly be awakened or created in the low-grade industrial occupations themselves. The child who, as Dr. Felix Adler says, has been "pitchforked into industry" at an early age, is too near the great unintelligible organization to see it as it really is. The perspective is distorted, and even the good things about it, the necessary economies and the efficient management, seem altogether selfish, heartless, cruel, and inhuman to the young worker. He sees only the grinding wheels which seem to have caught him in their ceaseless whirling, and he feels as lacking in intelligence as they, and as hopeless of an opportunity to perform any other function in the complex process. Beyond a doubt something of this marvelous organization might be demonstrated to those children by the proper kind of work given in connection with their studies at, or preferably before, the time when they will undoubtedly leave school. This whole matter can be so explained and illustrated that children will be a little more discriminating in their selection of jobs, and also a little better able to see the necessity for rigid regulations and apparent severities. Such knowledge would enable them so to adjust themselves to the burden, that they can carry it more easily and more hopefully, and with a reasonable certainty that faithful and intelligent work will bring reward here as elsewhere. No one has time to teach them all this after they have entered a mill or factory. Certainly if they are to make their entry into industry through the mill door, it is of more vital importance that they learn something in school of the methods and meaning of modern industry than that they acquire proficiency in figuring bank discount and partial payments, or in computing interest on promissory notes or in distinguishing between a participle and an infinitive. Therefore there is need, in some communities, of a certain type of industrial education because it will *deter* children from entering low-grade industrial occupations, or will lead them to defer such entry as long as possible, and because it will enable some to rise through such work, instead of being crushed by it, provided they must enter it eventually.

There are four other reasons which may be urged—reasons relating to supposed defects in our traditional educational ideals and practices. The first of these is that this type of education is needed, for boys especially, because it brings more men teachers into the schools. Without overlooking the fact that women are generally better teachers than men, it is nevertheless to be regretted that the majority of boys leave school without having come into contact with a male teacher, except for matters of discipline. Furthermore, the men thus brought into the schools will be of a somewhat different mental attitude and fiber and should serve to hold the balance true and to give a more practical flavor to education.

It has been said, and it is probably true, that our traditional school system tends to create a disinclination to hard work of any kind but especially to manual work, even when such work requires a high order of thinking and promises ample financial and social reward. Referring to the work of Pestalozzi, in his *Educational Reformers*, Quick says, "To many people in the present day it might seem that education, when quite successful, would qualify *laborers* to become *clerks.* This was not the notion of Pestalozzi." It has been noted by all writers on child-study that the child loves activity of almost any sort. It is noticed that children like to *play* at work, but it is also to be observed that children enjoy real work when done in company with their elders. Perhaps they do not care to be set about some uninteresting and disagreeable job, which their elders are also anxious to avoid, but, given companionship in their task, children generally *like to work.* It is a fundamental need in our education that the schools shall address themselves to the problem of so guiding and stimulating this interest in work that it will not have disappeared entirely in the child of seventeen or eighteen years of age. To utilize this almost instinctive desire of children, at the time it appears, training in real work becomes necessary in the grades.

Another distinctly educational reason for urging industrial work in the grades is that it is here that most children reach the period of early adolescence. It seems to be true that our present system of education makes little provision for this mysterious and difficult period of the pupil's school life. If there is any one thing true about the period it is that, during it, the peculiar tastes and desires of the *individual* must be carefully studied, and must be utilized as a motive power if the best results are to be achieved. This period brings to thousands of our children the awakening of vocational interests, the more so when they are hungry and poorly clothed and are without spending money or the means of getting it. These vocational interests must, therefore, be brought into the school work and there utilized as an incentive for vigorous effort on the part of the child. Since with so many of our city children this vocational motive is derived directly from the low-grade industrial occupations above mentioned, the introduction of industrial education would seem to be a necessary educational measure.

And then this introduction of real industrial work into the elementary school is necessary because the first and most important function of the school should be to teach children to *succeed*. Our present schools too often allow children to remain in them for years (often until the children desert the school altogether and forever), without ever experiencing the *joy of success.* After all, is there anything better that the school can do in eight years than to see that children form the habit of successful effort? For my part I would rather a child would *succeed* in industrial work than to acquire the habit of *failing* in his arithmetic, geography, and language work, and of accepting the situation with entire equanimity and indifference. It is undoubtedly true that large numbers of our children will succeed mainly, at this time in their lives, with concrete, creative work of a thoroughly practical and utilitarian nature. Therefore industrial education is needed in the elementary school for the purpose of showing some children how to succeed, and thus inciting them, through the joy of achievement, to still further accomplishment in this and in other fields.

There remain on my list of needs three others, more or less closely related to those already discussed, but having in mind chiefly the benefit which will accrue to society at large, rather than to the individual child or to the school system.

First I would note the advance which is being made by the National Child Labor Committee and other child-saving agencies in securing and enforcing school attendance laws and other measures regulating or preventing child labor. We must all recognize the desirability of such progress, but it raises, nevertheless, a serious question. No generation of men has yet been raised without the advantages, whatever they may be, that inhere in the intimate, personal, and early acquaintance with the difficulties and the joys of real productive labor. Whether this early acquaintance with real work and responsibility provides an *indispensable* element in the education of the race cannot be proven in a generation, but there is a growing belief that such is indeed the case. If one holds to that theory there appears to be but one solution of the problem, namely, to introduce industrial education into the grades as a substitute for child labor.

Industrial education is needed in the elementary schools as a preventive of juvenile delinquency. Existing industrial conditions render it difficult, if not impossible, for children of fourteen or fifteen years of age to satisfy their natural desire to earn money. Even if they leave school and go to work, investigation shows that employment is extremely irregular and poorly paid. Such labor is often uninteresting, and so fails to hold the attention of the child, or to develop in him any enthusiasm for the work. The result is a great deal of idleness which is undoubtedly conducive to delinquency.

It is said that 95 per cent of boy delinquents have committed crimes against property. Most of these crimes would not be committed if money were plenty or even adequate to the barest needs of the family. It seems to be a fact that delinquency is on the increase, both in Europe and America. It would further appear that work of a distinctly vocational nature and promising the development of greater earning power would retain large numbers of the fourteen- and fifteen-year-old children in school, especially if the work were begun a year or two before the end of the compulsory school period.

However this may be, it is thoroughly well understood that the methods employed in the reformation of these delinquents, in reform schools and in penitentiaries, include a liberal amount of training in the practical arts and industries and in continual opportunity for the doing of work needed to maintain the daily life of the institution. A careful study of these schools, and of other schools for the unfortunate or less fortunate of our children, seems to prove beyond peradventure, the efficiency of these methods. They are employed, in many of these institutions, in training children of the same age and possessing the same general characteristics as the less progressive members of our elementary schools, and this fact leads to the belief that the same or similar methods applied in our public schools would be preventive and thus render less and less necessary our reformatory institutions. If this be true, industrial education is badly needed in our elementary schools.

And finally, I would urge as the last of the three social reasons and the last on my list this, that industrial education is needed to bring to our young people a finer appreciation of the joy and pleasure to be derived from productive work. This is needed as a corrective for the present tendency of our schools, in common with our civilization in general, to over-emphasize the pleasures to be gained by consumption and by passive entertainment.

The schools teach our young people, and rightly so, to desire and to enjoy poetry, music, art, travel, the drama, beautiful clothes, beautiful houses, both as to architecture and in interior furnishings, and many other things of like nature. The schools develop a strong desire to enjoy such things but give very little idea of how these wants can be satisfied, leaving the inevitable conclusion that money is the one and almost the only source of enjoyment. It should not be hard to convince a body composed of teachers of the manual arts that, while all the above-mentioned means of securing enjoyment are good, there has been omitted one which really brings a more lasting joy and one which may be, perhaps *must* be, combined with the love of the beautiful, and that is the joy which is found *in the making*. Children may be taught the joy *in making* for the better employment of their leisure, as well as the sterner joy *in productive labor* which will enable them to get a little more satisfaction out of their daily work. This interest, like so many other vital interests, is peculiarly susceptible of development in the child of twelve to sixteen years of age, and therefore should be the peculiar care of the elementary school.

If we turn from the consideration of the needs for industrial training in the grades to ask what the purpose of such training is we may feel that, obviously, the purpose is simply to meet the demonstrated needs and that nothing more need be said. I believe, however, that it is worth while making one general and inclusive statement regarding the purpose of elementary industrial education in addition to all which has been said in, or may be implied from, the foregoing. There are certain types of industrial schools which have a single, definite purpose, and rightly so; but any industrial work in the grades must be distinguished by a double purpose or it will be unworthy of our approval.

Industrial education in the grades must meet, in some measure, one or all of the needs which we have discussed. It must show the joy in productive labor, must serve to interest children in the industrial world, must enable the young worker to enter an occupation with some special training which will better prepare him to succeed in it, it must give him a respect for honest labor and teach him the satisfaction in work well done, it must give him some comprehension of the great industrial organizations of our country and some notion of the dangers, difficulties, and possibilities of success which are presented by them; but this is only half the purpose. The other half consists in so presenting this industrial material that the children will be led, consciously or unconsciously, to a better understanding of what education is, of what the schools can do to promote it, of what advantages may come from a better mastery of the tools of knowledge, in short, so as to interest him in what we have commonly called "education" but which perhaps is better described by the more homely term "schooling."

This second purpose, perhaps the more important of the two, is an attempt to harness that great motive power, *the vocational interest*, in the service of stimulating elementary education as it is now employed in secondary and higher education. It is not to be doubted that some students pursue their college courses with the admonition of Solomon in their hearts, "Get wisdom, and with all thy getting get understanding," but I firmly believe that, if these courses were known to be devoid of vocational significance there would be an exodus from our institutions of learning, both of students and instructors. The vocational motive is potent with most of those who are receiving a liberal education, and it is the *purpose* of industrial education in the elementary school to provide an equally vital inducement to study for those children who can have but a few years of contact with the schools and who do not come at their life-work by way of the professions.

And finally, we are to consider the possibility of such work in the grades of the public schools. I shall be pleased to leave the details of these question for the discussion of those who follow me. I will say, however, that the best answer to the question that I can give is that, within three years, a dozen or more such classes or schools have been organized experimentally and have met with unexpected success. Merely to mention the location of these schools would show the widespread and growing interest in this work. Beginning at the Atlantic Ocean and ignoring the industrial schools which maintain a separate organization, that is, which require the children to leave the established pathway which leads to the high school and to the university, we find a line of these *elementary industrial schools* under one name and another as far as to the Pacific. Within a few weeks, Boston, the city which first experimented with this type of school work, has fixed the status of the work by establishing seven "pre-vocational centers," so called. Fitchburg, Mass., Cleveland, Cincinnati, Indianapolis, Springfield, Ill., Evanston, St. Louis, St. Paul, Los Angeles, and Seattle have all *demonstrated* the possibility of industrial education in the elementary school.

Whatever may be the superiority of other types of industrial schools, it is certain that these will touch more pupils and at a time when to touch is strongly to impress. It is also true that whatever may be the relation of other industrial schools to the present school system and to the present corps of teachers, the elementary industrial work will be most effective when conducted under the direction of the manual-training authorities. This presents to the manual-training teachers of the country one of the most important and interesting educational problems now under consideration. It is my firm belief that manual-training teachers will rise to the occasion and will work out a solution of this problem which will be of great and lasting good to the entire school system.